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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,717	10/05/2001	William W. Jones	MNDSPD.0002P	4444

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EXAMINER	
YANCHUS III, PAUL B	
ART UNIT	**PAPER NUMBER**
2116	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/972,717	JONES ET AL.	
	Examiner	Art Unit	
	Paul B. Yanchus	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) *16-19 and 30-45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,20-29 and 46-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/20/02, 12/15/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-15, 20-29 and 46-49, in the reply filed on 3/30/05 are acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 20, 22-24, 46 and 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowie, US Patent no. 5,956,323, in view of, Jack Glas, "The Principles of Spread Spectrum Communication" [Glas][1].

Regarding claim 1, Bowie discloses a communication device activation request system, comprising:

a signal generator [column 6, lines 27-28];

a transmitter configured to receive and transmit a signal [column 6, lines 25-28]; and

a controller in communication with the signal generator and the transmitter, the controller configured to initiate generation of a signal in response to a request for communication from the communication device [column 6, lines 19-28].

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[1] included in IDS filed on 2/20/02.

Bowie discloses a signal generator, transmitter and controller used to generate and send an activation request signal, but does not specifically disclose generating and transmitting a sequence signal. Glas discloses using a spread spectrum technique, specifically direct sequence signals, to transmit signals in communication systems [page 1]. It would have been obvious to one of ordinary skill in the art to modify the Bowie system to generate and transmit direct sequence signals as communication device activation requests. It would be advantageous to use direct sequence signals because they have a low power spectral density, they use the whole frequency spectrum to limit interference and they use random unknown codes to make it difficult for a hostile user to intercept the signal [page 1].

Regarding claim 2, Glas further discloses using M-sequence signals [page 5].

Regarding claim 3, Bowie further discloses that the communication device operates under a digital subscriber line standard [column 3, lines 34-36].

Regarding claim 4, Bowie further discloses that the request for communication occurs after a period of inactivity entered to reduce power consumption of at least one communication device [column 5, lines 6-16 and column 6, lines 17-18].

Regarding claim 20, Bowie discloses a method for reducing power consumption of one or more communication devices during periods of inactivity comprising:

detecting a period of inactivity [column 5, lines 5-16];

entering into a mode of reduced power consumption [column 5, lines 5-16];

receiving a request to resume communication [column 6, lines 17-26];

generating a signal in response to the request [column 6, lines 27-30];

transmitting the signal to a remote location to initiate communication [column 6, lines 27-33].

Bowie discloses a method of generating and transmitting an activation request signal, but does not specifically disclose generating and transmitting a sequence signal. Glas discloses using a spread spectrum technique, specifically direct sequence signals, to transmit signals in communication systems [page 1]. It would have been obvious to one of ordinary skill in the art to modify the Bowie system to generate and transmit direct sequence signals as communication device activation requests. It would be advantageous to use direct sequence signals because they have a low power spectral density, they use the whole frequency spectrum to limit interference and they use random unknown codes to make it difficult for a hostile user to intercept the signal [page 1].

Regarding claim 22, Bowie further discloses that the periods of inactivity comprises a period of time when the one or more communication devices are not exchanging data [column 5, lines 6-16].

Regarding claim 23, Bowie further discloses that the request to resume communication comprises a request for data from a user of one or more communication devices [column 6, lines 19-25].

Regarding claim 24, Bowie further discloses exchanging handshaking information to discover any loop characteristics that may have changed [column 6, lines 34-40].

Regarding claims 46 and 48, Bowie discloses a system for initiating a warm start operation comprising:

means for generating a signal, the signal of the type predetermined to initiate a warm start [column 6, lines 19-28];

means for transmitting the signal to a remote communication device to initiate communication [column 6, lines 19-28];

means for detecting a signal and processing a signal to determine if the signal is a request for a warm start operation [column 6, lines 28-30];

means for initiating a warm start operation if the means for detecting determines a signal is a request for a warm start operation [column 6, lines 28-33].

Bowie discloses a wake-up signal generation and detection system used to generate and detect a wake-up signal, but does not specifically disclose generating and detecting a sequence signal. Glas discloses using a spread spectrum technique, specifically direct sequence signals, to transmit signals in communication systems [page 1]. It would have been obvious to one of ordinary skill in the art to modify the Bowie system to transmit and receive sequence signals as communication device activation requests. It would be advantageous to use direct sequence signals because they have a low power spectral density, they use the whole frequency spectrum to limit interference and they use random unknown codes to make it difficult for a hostile user to intercept the signal [page 1].

Regarding claim 49, Bowie further discloses exchanging handshaking information after the wake-up signal is received [column 6, lines 35-40].

Claims 5-15, 21, 25-29 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowie, US Patent no. 5,956,323 and Jack Glas, "The Principles of Spread Spectrum Communication" [Glas][2], in view of, Usui, US Patent no. 6,237,013.

Regarding claims 5, 6 and 9, Bowie discloses a wake-up signal detection system for use in a communication device, the system comprising:

a receiver configured to receive a signal [column 6, lines 28-30];

a detector configured to detect the received signal [column 6, lines 28-30];

a controller to determine whether to initiate a warm start process based on the output of the detector [column 6, lines 28-33].

Bowie discloses a wake-up signal detection system used to detect a wake-up signal, but does not specifically disclose detecting a sequence signal. Glas discloses using a spread spectrum technique, specifically direct sequence signals, to transmit signals in communication systems [page 1]. It would have been obvious to one of ordinary skill in the art to modify the Bowie system to receive sequence signals as communication device activation requests. It would be advantageous to use direct sequence signals because they have a low power spectral density, they use the whole frequency spectrum to limit interference and they use random unknown codes to make it difficult for a hostile user to intercept the signal [page 1].

Bowie and Glas do not specifically disclose that the detector comprises a correlator to correlate the received sequence signal and a comparator to compare the correlated sequence signal to one or more threshold values in order to determine whether to initiate a warm start process. Usui states that a system comprising a correlator to correlate a received sequence signal

[2] included in IDS filed on 2/20/02.

and a comparator to compare the correlated sequence signal to one or more threshold values is a well known system for detecting a sequence signal [column 2, lines 12-40]. It would have been obvious to one of ordinary skill in the art to use the well known correlator and comparator detection system in the Bowie and Glas system to detect a transmitted wake-up sequence signal.

Regarding claim 7, Bowie further discloses exchanging handshaking information after the wake-up signal is received [column 6, lines 35-40].

Regarding claim 8, Bowie further discloses that the wake-up signal comprises a signal transmitted from a first communication device to a second communication device to request resumption of communication after a period of inactivity [column 6, lines 17-40].

Regarding claim 10, Bowie discloses an apparatus for restoring operation of a communication system after a period of inactivity, the communication system comprising at least a first communication device and a second communication device, the system comprising:

a signal generator at the first communication device configured to generate a signal upon request to initiate communication after a period of inactivity [column 6, lines 27-28];

a transmitter at the first communication device configured to transmit the signal to the second communication device, the signal intended to initiate operation of the second communication device [column 6, lines 25-28];

a receiver at the second communication device configured to receive the signal [column 6, lines 28-30];

a detector at the second communication device configured to process the received signal to determine if the received signal is a signal that signals a request to initiate operation [column 6, lines 28-33].

Bowie discloses a wake-up signal generation and detection system used to generate and detect a wake-up signal, but does not specifically disclose generating and detecting a sequence signal. Glas discloses using a spread spectrum technique, specifically direct sequence signals, to transmit signals in communication systems [page 1]. It would have been obvious to one of ordinary skill in the art to modify the Bowie system to transmit and receive sequence signals as communication device activation requests. It would be advantageous to use direct sequence signals because they have a low power spectral density, they use the whole frequency spectrum to limit interference and they use random unknown codes to make it difficult for a hostile user to intercept the signal [page 1].

Bowie and Glas do not specifically disclose that the detector comprises a correlator to correlate the received sequence signal and a comparator to compare the correlated sequence signal to one or more threshold values in order to determine whether to initiate a warm start process. Usui states that a system comprising a correlator to correlate a received sequence signal and a comparator to compare the correlated sequence signal to one or more threshold values is a well known system for detecting a sequence signal [column 2, lines 12-40]. It would have been obvious to one of ordinary skill in the art to use the well known correlator and comparator detection system in the Bowie and Glas system to detect the transmitted wake-up sequence signal.

Regarding claim 11, Bowie further discloses an activity detection system configured to provide an indication upon a period of inactivity between the first communication device and the second communication device, to the communication system [column 5, lines 6-10].

Regarding claim 12, Glas further discloses using M-sequence signals [page 5].

Regarding claims 13 and 14, Usui further discloses comparing points of correlation of the correlated signal to a threshold signal to determine if an M-sequence signal was transmitted [column 2, lines 12-40].

Regarding claim 15, Bowie further discloses that the period of activity is intended to at least reduce the power consumption of the communication system [column 5, lines 6-10].

Regarding claim 21, Bowie and Glas, as described above, disclose generating and transmitting a sequence signal for resuming communication of devices in a communication system. Bowie further discloses monitoring and receiving signals at a remote location and analyzing the signals to determine if the signal qualifies as a request to resume communication [column 6, lines 27-33].

Bowie and Glas do not specifically disclose that the remote location comprises a correlator to correlate the received sequence signal and a comparator to compare the correlated sequence signal to one or more threshold values in order to determine whether to initiate a warm start process. Usui states that a system comprising a correlator to correlate a received sequence signal and a comparator to compare the correlated sequence signal to one or more threshold values is a well known system for detecting a sequence signal [column 2, lines 12-40]. It would have been obvious to one of ordinary skill in the art to use the well known correlator and comparator detection system in the Bowie and Glas system to detect the transmitted wake-up sequence signal.

Regarding claims 25-27 and 29, Bowie and Glas, as described above disclose a method of processing a received sequence signal to determine if the received sequence signal is a request to initiate a warm start operation. Bowie and Glas do not specifically disclose filtering the

received sequence signal, correlating the filtered signal and comparing the correlated sequence signal to one or more threshold values. Usui states that a system comprising a filter to filter a received signal, a correlator to correlate the filtered sequence signal and a comparator to compare the correlated sequence signal to one or more threshold values is a well known system for detecting a sequence signal [column 2, lines 12-40]. It would have been obvious to one of ordinary skill in the art to use the well known filter, correlator and comparator detection system in the Bowie and Glas system to detect the transmitted wake-up sequence signal.

Regarding claim 28, Usui further discloses using a finite impulse response filter to perform correlating [column 2, lines 18-25].

Regarding claim 47, Bowie and Glas, as decribed above, disclose a system for generating and detecting a sequence signal to indicate a request for a warm start operation. Bowie and Glas do not specifically disclose that the detector comprises a correlator to correlate the received sequence signal. Usui states that a system comprising a correlator to correlate a received sequence signal is a well known system for detecting a sequence signal [column 2, lines 12-40]. It would have been obvious to one of ordinary skill in the art to use the well known correlator detection system in the Bowie and Glas system to detect a transmitted wake-up sequence signal.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Currie, US Patent no. 5,974,433, discloses generating and decoding M-sequence signals.

Gibson et al., US Patent no. 6,049,885, discloses a method of waking a sleeping device remotely.

Saskura et al., US Patent no. 6,151,493, discloses using M-sequence signals to transmit identification data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B. Yanchus whose telephone number is (571) 272-3678. The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Paul Yanchus
April 13, 2005